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**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Develop
an Electricity Integrated Resource Planning
Framework and to Coordinate and Refine
Long-Term Procurement Planning
Requirements.

R.16-02-007

**CALIFORNIA COMMUNITY CHOICE ASSOCIATION
REPLY COMMENTS ON ADMINISTRATIVE LAW JUDGE'S RULING
SEEKING COMMENT ON PROPOSED REFERENCE SYSTEM PORTFOLIO
AND RELATED POLICY ACTIONS**

Irene K. Moosen
California Community Choice Association
One Concord Center
2300 Clayton Road, Suite 1150
Concord, CA 94521
415.587.7343
regulatory@cal-cca.org

Director, Regulatory Affairs
California Community Choice Association

Evelyn Kahl
Ann Springgate
Benjamin Ellis
Buchalter, A Professional Corporation
55 Second Street
Suite 1700
San Francisco, CA 94105
415.227.0900
ekahl@buchalter.com

Counsel to the California Community Choice
Association

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TABLE OF ACRONYMS

ABB	Asea Brown Boveri
AWEA	American Wind Energy Association
CalCCA	California Community Choice Association
CAISO	California Independent System Operator
CEC	California Energy Commission
CESA	California Energy Storage Association
CCA	Community Choice Aggregator
ELCC	Effective Load Carrying Capability
GHG	Greenhouse Gas
GW	Gigawatt
GWh	Gigawatt Hour
IOU	Investor Owned Utility
IEPR	Integrated Energy Policy Report
IRP	Integrated Resource Planning
LOLE	Loss of Load Expectation
LSE	Load Serving Entity
MMT	Million Metric Tons
MW	Megawatt
MWh	Megawatt Hour
OOS	Out-of-State
PCM	Production Cost Modeling
PG&E	Pacific Gas and Electric Company
PSP	Preferred System Portfolio
RA	Resource Adequacy
RSP	Reference System Portfolio
SCE	Southern California Edison Company
SDG&E	San Diego Gas and Electric Company
WECC	Western Electricity Coordinating Council

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The California Community Choice Association¹ submits these Reply Comments in response to the *Administrative Law Judge's Ruling Seeking Comment on Proposed Reference System Portfolio* issued on November 6, 2019 (Ruling) and the November 19, 2019, *E-mail Ruling Responding to Southern California Edison Request for Extension of Time to File Comments on Proposed Reference System Portfolio and Related Policy Actions*.

I. INTRODUCTION

Parties' comments on the Ruling offer insights and recommendations that will enhance the effectiveness of the 2019-2020 Integrated Resource Planning cycle. The breadth of comments highlight the need for additional time to allow both Staff and load-serving entities to explore these recommendations and integrate the results of this exploration in modeling and IRP plan preparation. With a schedule extension in mind, CalCCA offers the following recommendations:

¹ California Community Choice Association represents the interests of 19 community choice electricity providers in California: Apple Valley Choice Energy, CleanPowerSF, Clean Power Alliance, Desert Community Energy, East Bay Community Energy, Lancaster Choice Energy, Marin Clean Energy, Monterey Bay Community Power, Peninsula Clean Energy, Pioneer Community Energy, Pico Rivera Innovative Municipal Energy, Rancho Mirage Energy Authority, Redwood Coast Energy Authority, San Jacinto Power, San Jose Clean Energy, Silicon Valley Clean Energy, Solana Energy Alliance, Sonoma Clean Power, and Valley Clean Energy.

- ✓ **Greenhouse Gas Reductions.** CalCCA supports adoption of an RSP that will achieve the state's climate goals, and observes that many CCAs intend to reduce carbon in their portfolios at a pace faster than envisioned by a 46 MMT scenario. If the 46 MMT GHG emissions constraint does not ensure that climate goal achievement, as SCE has concluded, then a more restrictive target will be necessary. Further review of SCE's conclusions is warranted, however, before replacing Staff's 46 MMT RSP with SCE's 38 MMT scenario.
- ✓ **Plan Aggregation.** CalCCA agrees with SCE that a better understanding of the aggregation process would benefit all parties, increasing the likelihood of a successful aggregation and reducing the strain on Staff resources in this process.
- ✓ **Justifying Portfolio Deviations.** SDG&E provides reasonable examples of ways in which an LSE should be permitted to justify deviations from the RSP. Staff should adopt the illustrations, augmented by CalCCA's recommendations, as reasonable justifications for deviations but maintain receptiveness to other reasonable justifications.
- ✓ **Retention of Gas-Fired Resources.** CalCCA, like other parties, continues to support a swift reduction in reliance on natural gas fired resources to reduce their effects on California's climate goals and disadvantaged communities, but recognizes the need to pace the reduction to avoid placing reliability at risk. Addition of a criteria pollutant metric proposed in CalCCA's Opening Comments will facilitate California's ability to understand the impact of any gas-fired resources through the transition to a carbon-free electricity supply.
- ✓ **Battery Storage ELCC Curve.** Staff's analysis assumes a declining ELCC curve for battery storage as penetration increases. Parties' comments take opposing views on this issue, suggesting that further evaluation of the curve would improve the outcome of this IRP cycle.

With these concerns and others raised in its Opening Comments, CalCCA proposes that Staff hold a two-day workshop in late January. The workshop should aim to:

- Assess the ability of Staff's 46 MMT and SCE's 38 MMT scenarios to meet climate goals;
- Develop more reasonable import assumptions;
- Consider the need for Staff's proposed 2,000 MW of generic effective capacity
- Develop metrics for criteria pollutant emissions;
- Examine differing points of view on battery storage curves; and,
- Explain the steps required in Staff's aggregation process, highlighting in greater detail the problems encountered in the last IRP cycle.

II. REPLY COMMENTS

A. Extend the Procedural Schedule

PG&E² and SDG&E³ reasonably propose to extend the procedural schedule to provide for LSEs' submission of IRP plans by roughly three months. The time between informal release of RESOLVE scenarios and the filing date for 2017-2018 cycle was over 12 months;⁴ in this cycle, the schedule has been compressed to seven months. Three additional months would at least partly address this gap, facilitating the development of more robust IRP plans while still providing sufficient time for the Commission to adopt a Preferred System Portfolio by March 1, 2020. The Commission should extend the schedule, requiring LSEs to submit their IRP plans on or before August 1, 2020.

The extension would provide clear benefits to the plan development process. First, a significant share of IRP development is contingent on the release of CEC IEPR load forecasts, which have not yet been released. Since the Commission does not currently plan to allow LSEs to utilize alternatives to the CEC IEPR data as modeling assumptions, LSEs cannot feasibly start the modeling and analysis until the IEPR update has been formally adopted. Second, three additional months would allow additional time for portfolio development, analysis, model modification, stakeholder discussion, and IRP plan preparation. This analysis is critical for LSEs to develop IRPs that reflect their unique portfolio needs and circumstances, which will require determining and planning for uncontracted RPS positions, identifying and considering demand-

² *Opening Comments of Pacific Gas and Electric Company (U 39E) to Administrative Law Judge's Ruling Seeking Comment on Proposed Reference System Portfolio and Related Policy Actions* (PG&E Opening Comments), Dec. 17, 2019, at 17 (proposing a July 31, 2020 submission date).

³ *Comments of San Diego Gas & Electric Company (U 902 E) in Response to Administrative Law Judge's Ruling Seeking Comment on Proposed Reference System Portfolio and Related Policy Actions*, (SDG&E Opening Comments), Dec. 17, 2019, at 5 (proposing an August 1, 2020 submission date).

⁴ See PG&E Opening Comments at 17.

side management opportunities, and ensuring alignment with local policy obligations. Third, the Commission has expressed concerns that LSEs evaluate their impacts to the operation of the grid, which also takes modeling time and effort. Fourth, since CCAs are public agencies, CCA portfolio development must include time for stakeholder discussion and feedback before presentation to CCA boards in public meetings for approval. For example, four CCAs (Clean Power Alliance, San Jose Clean Energy, Peninsula Clean Energy, and East Bay Community Energy) are jointly developing their portfolios to ensure better integration of larger shares of load with robust modeling and stakeholder input. These CCAs are well advanced in their planning and preparation but estimate needing through June 2020 to complete both the requisite modeling, community engagement, and individual CCA board review and approval.⁵ Finally, a schedule extension will allow Staff to integrate the output of the workshops proposed by CalCCA in its RESOLVE and SERVVM modeling and allow LSEs to reasonably align their plans.

CalCCA understands that significant time is required between the submission of the IRPs and adoption of the Preferred System Portfolio. However, a three-month schedule extension, as proposed by other parties, would allow the Commission 30 weeks to compile and evaluate IRPs and adopt and submit a Preferred System Portfolio, relative to the 38 weeks required in the 2017-2018 IRP cycle. Given the significant IRP aggregation experience gained by parties and staff since the last cycle, coupled with standardized inputs and the process improvements to IRP development and aggregation proposed in this cycle, should provide sufficient time to submit a Preferred System Portfolio to the CAISO by March 1, 2021.

⁵ Appendix A provides an illustrative timeline based on the timeline for the development of the joint CCA IRP effort assuming the release of load inputs on January 22, 2019 and a Reference System Portfolio adoption date of March 26, 2020, as indicated in ALJ Fitch's November 19, 2019 email to the IRP Service List.

CalCCA acknowledges that LSEs have been directed to provide an update on their incremental system RA procurement by May 1, 2020, pursuant to Decision 19-11-016, and it is not CalCCA's intention to delay that reporting and procurement obligation. If the Commission does delay the submission of individual LSEs' IRPs to August 1, 2020, CalCCA recommends that the staff provide interim reporting templates for LSEs to submit their update on May 1, 2020.

B. Provide a Default List of Reasonable Justifications for LSE Deviation from the RSP

CalCCA's Opening Comments proposed that Staff permit CCA showings of conflicting requirements mandated or directed by local authorities as an acceptable justification for deviation from the RSP.⁶ CalCCA also suggested that qualitative "analysis demonstrating portfolio compliance with overarching policy goals such as decarbonization and reliability, such as PCM assumptions and outputs"⁷ should also be considered in assessing RSP deviations.

SDG&E's Opening Comments further illustrate reasonable ways in which an LSE could justify departures from the RSP. As proposed by SDG&E,⁸ an LSE could show:

- Past Least Cost, Best Fit solicitations have shown that a resource type proposed in the RSP does not typically fare well into the LSE's prior solicitations;
- Knowledge of local permitting challenges, code restrictions/requirements, or other regional issues indicate that a certain resource type will be more or less successful than what was assumed in the RSP;
- Insights into regional resource development opportunities that could have long-term potential benefits but differ from near-term planning targets; and,

⁶ *California Community Choice Association Comments on Administrative Law Judge's Ruling Seeking Comment on Proposed Reference System Portfolio and Related Policy Actions* (CalCCA Opening Comments), Dec. 17, 2019, at 41.

⁷ *Id.* at 41.

⁸ SDG&E Opening Comments at 30.

- Competing procurement requirements, like Local RA obligations, that make certain resources more valuable than others.

CalCCA agrees with SDG&E that these justifications should be accepted as reasonable in Staff's evaluation of an LSE's deviation from the RSP. The Commission should expressly adopt these justifications along with CalCCA's recommendations in Opening Comments to permit CCA showings of conflicting requirements mandated or directed by local authorities as presumed acceptable justifications for deviation from the RSP,⁹ while remaining open to other potential showings.

C. Adopt a Criteria Pollutant Metric to Minimize Impacts of Retained Natural Gas Fired Generation on Disadvantaged Communities

CalCCA members strongly support a swift transition to a carbon-free electricity supply across California and, in many cases, intend to move more quickly than the goals that will be reflected in the RSP. The transition is critical to meet the state's climate goals and to reduce or eliminate impacts on disadvantaged communities in which some of these resources are located. Parties' comments, however, reveal continuing controversy regarding the need for natural gas-fired resources, and more analytical rigor is required to advance the debate.

Calpine asserts, for example, that the baseline assumptions are "unrealistic with respect to the continued operation of some natural gas-fired generation..."¹⁰ Public Advocates Office, in contrast, argues that the retention of most or all of the current thermal generation fleet in the staff proposed RSP may not be reasonable.¹¹ SDG&E suggests that while the Commission's

⁹ CalCCA Opening Comments at 40-41.

¹⁰ *Comments of Calpine Corporation on Administrative Law Judge's Ruling Seeking Comment on Proposed Reference System Portfolio and Related Policy Actions* (Calpine Opening Comments), Dec. 17, 2019, at 2.

¹¹ *Comments of the Public Advocates Office Responding to the Administrative Law Judge's Ruling Seeking Comment on Proposed Reference System Portfolio and Related Policy Actions* (Public Advocates Office Opening Comments), Dec. 17, 2019, at 18.

extension of once-through-cooling plant retirement dates was reasonable, “the volumes identified in the final RSP should match the staggered extensions identified in the Procurement Track Decision.”¹² The disagreement among commenters about the potential for rapid decarbonization of the energy sector suggests strongly that the Commission should perform the Thermal Retention Study proposed in the February 11, 2019 ruling, especially the low thermal retention sensitivity.¹³ As the technical debate continues on the extent to which fossil resources are needed in the transition to a carbon-free electricity supply, the Commission needs metrics to conduct more granular evaluation. Not all fossil resources have equal impacts, having different emissions rates, generation profiles, and community impacts. For this reason, CalCCA proposed in its Opening Comments that Staff employ a criteria pollutant metric in its modeling to examine the impacts of various configurations on climate goals and communities. This metric, presenting criteria pollutant data already collected within SERVIM, would help staff and parties better understand the risks associated with retained gas with low capacity factors.¹⁴

The staff should hold an additional workshop to examine the feasibility of adopting this metric, and solicit feedback on how LSEs should incorporate such metric in their IRPs. The models track criteria pollutant output, and presenting the information would give parties a better understanding of differences between alternative plans. Topics to consider in the workshop could include potential local or regional aggregations of resource criteria pollutant levels to identify geographical differences in output for alternative plans.

¹² SDG&E Opening Comments at 6.

¹³ Rulemaking (R.) 16-02-007 *Administrative Law Judge’s Ruling Seeking Comment on Proposed Scenarios for 2019-2020 Reference System Portfolio*, Feb. 11, 2019.

¹⁴ CalCCA Opening Comments at 16.

D. Evaluate SCE's Alternative Scenarios to Ensure California Aims to Meet Its Climate Goals

SCE's Opening Comments place doubt on the ability of the 46 MMT RSP to enable the state to achieve its climate goals, proposing instead adoption of its 38 MMT scenario.¹⁵ CalCCA fully supports ensuring the use of a GHG emissions scenario that will ensure achievement of these critical goals, but adoption of SCE's scenario at this point is premature. Accordingly, SCE's proposal should be reviewed in the January workshop proposed in Section F, examining at a minimum the observations offered below.

1. Procurement in Response to D.19-11-016

SCE's methodology—optimal resource buildout and costs for the 38 MMT portfolio—differs starkly from the Staff's portfolios. SCE includes in the baseline set of resources the 3,300 MW of procurement required by Decision (D.) 19-11-016, thereby excluding this procurement and related costs from the results reported for the optimal buildout.¹⁶ As a result, the incremental capacity addition comparison included in Figure 8 of SCE's comments is misleading: to accurately compare SCE's result to the RSP, the overall buildout of storage in the 38 MMT portfolio should be 9,720 MW, and not 6,420 MW as SCE's methodology presents. By understating the required buildout, SCE also understates costs; the lower end of the resource cost accordingly under SCE's 38 MMT portfolio should be \$3.1 billion (using the incremental cost of \$0.5B for 3,300 MW of 4-hour storage assumed by SCE). In other words, SCE's 38 MMT portfolio costs are about \$600 million per year higher than Staff's 46MMT Alternate portfolio and \$600 million lower than Staff's 38MMT portfolio. While these costs may be justified as

¹⁵ *Southern California Edison Company's (U 338-E) Opening Comments on Administrative Law Judge's Ruling Seeking Comment on Proposed Reference System Portfolio and Related Policy Actions* (SCE Opening Comments), Dec. 17, 2019, at 23.

¹⁶ *Id.* at 26.

necessary for achieving state climate goals, an examination of the differences between the portfolios, their costs, and their ability to meet the State’s GHG and disadvantaged community impacts goals is needed.

2. Import Limitations

SCE includes consistent and potentially more realistic import limits for the PRM constraint and the import limit during peak conditions; SCE recommends using 5,000 MW plus the contribution of three out-of-state units (Hoover, Palo Verde, and Intermountain for a total of 1,937 MW in 2020).¹⁷ SCE’s approach appears to be consistent with CalCCA’s contention that 5,000 MW of import RA and energy assumption is highly restrictive, but fails to recognize that there are other import resources for which CAISO LSEs have rights to the imported power (*e.g.*, Central Valley Project output), suggesting a higher import limit may be warranted.

In addition, SCE¹⁸ and other stakeholders (*e.g.*, CAISO,¹⁹ AWEA²⁰) have identified a need to make consistent assumptions in RESOLVE and SERVVM that fixes the imports to the same level in both models. While the approach used by Staff is internally consistent in this manner, the consistency takes a step too far in assuming that the restriction applies equally to RA and energy. Even assuming a limitation during peak hours on RA imports, analysis presented by the CAISO demonstrates that significantly higher energy imports are available during non-peak hours. Consequently, restricting RESOLVE to 5,000 MW for all 37 representative days is overly conservative, including for many days/scenarios that do not represent the peak load hours for

¹⁷ *Id.* at 25.

¹⁸ *Id.* at 25-26

¹⁹ *Comments of the California Independent System Operator Corporation* (CAISO Opening Comments), Dec. 17, 2019, at 12.

²⁰ *Comments of the American Wind Energy Association California Caucus on the Administrative Law Judge’s Ruling Seeking Comment on Proposed Reference System Portfolio and Related Policy Actions* (AWEA Opening Comments), Dec. 17, 2019, at 5.

which some parties assert import restrictions. As CalCCA noted in its Opening Comments,²¹ there is no need to artificially restrict SERVM (to even 6,927 MW as recommended by SCE) imports if the Commission has confidence in the WECC-wide unit commitment and dispatch modeled in SERVM.

3. Wind Resource Penetration

SCE's 38 MMT portfolio has higher wind resources (primarily OOS) than Staff's 46 MMT Alternate portfolio.²² CalCCA could support this outcome provided that the portfolio properly accounts for the cost of transmission triggered by the OOS wind resources. It is unclear from SCE's Opening Comments exactly how these costs were addressed. Furthermore, the portfolio must account for transmission interconnection and integration costs. Finally, the availability of these resources will also turn on the availability of transmission rights. To the extent that the allocation of import capacity is only done on a short term basis and does not reflect the needs for transmission rights, these resources may not be optimally available. Accounting for these costs and constraints is critical to ensure a reference portfolio that accurately embodies the fundamental principle of cost causation.

4. Stress Testing for Reliability

SCE used ABB's capacity expansion model to develop the portfolios²³ and then tested it using the PLEXOS production cost model.²⁴ It does not appear, however, that SCE used a stochastic production cost model to verify that the portfolios produced a 0.1 LOLE. SCE's 38 MMT portfolio should be tested in SERVM to ensure that it meets the reliability threshold.

²¹ CalCCA Opening Comments at 17.

²² See, e.g., SCE Opening Comments at 32, Figure 8.

²³ *Id.* at 49.

²⁴ *Id.* at 50.

E. Reexamine the Declining Battery Storage ELCC Curve

Staff's analysis assumes a declining ELCC for battery storage as penetration increases for two reasons. First, storage is assumed to flatten the net peak, requiring longer duration and/or higher stored energy volumes to continue to be able to offset a shifting peak load hour. Second, increasing penetrations face the challenge of having enough energy available for sufficient charging to support peak demand. Parties' Opening Comments question this approach.

SCE opposes the adoption of this substantial change in the capacity value of battery storage so late in the IRP process, particularly without significant vetting of the analysis used to justify this change. In particular, SCE points out that "[t]here is no explanation how this proposed change impacts longer-duration storage (i.e., > 4 hours) in the RESOLVE model."²⁵ UCS likewise challenges Staff's approach, suggesting that with a lower GHG target, higher renewable capacity would undoubtedly alter the battery storage ELCC curve, increasing battery storage ELCC values.²⁶ CESA proposes additional review, recommending that "the Commission evaluate the benefits of diversifying the state's energy storage portfolio by incentivizing the development of technologies with durations over eight hours."²⁷

CalCCA agrees with SCE that this is a material change that has not been sufficiently vetted to ensure its accuracy. Moreover, given the increasing role for battery storage as the state approaches its climate goals, making unnecessarily conservative or erroneous assumptions regarding the future value of storage carries the potential to significantly distort results. In

²⁵ *Id.* at 12.

²⁶ *Opening Comments of the Union of Concerned Scientists on the Ruling Seeking Comment on Proposed Reference System Portfolio and Related Policy Actions* (UCS Opening Comments), Dec. 17, 2019, at 3.

²⁷ *Comments of the California Energy Storage Alliance on the Administrative Law Judge's Ruling Seeking Comment on Proposed Reference System Portfolio and Related Policy Actions* (CESA Opening Comments), Dec. 17, 2019, at 7.

particular, Staff's assumption does not recognize that as the net peak is reduced and moved by the deployment of storage, storage capacity should be able to alter dispatch to more effectively address the new peak as needed. CalCCA thus proposes that Staff undertake more scenario analysis, involving greater penetration of solar generation (*i.e.*, availability for battery storage charging and longer duration storage) before modifying RA counting criteria for battery storage.

F. Schedule a Two-Day Workshop for Late January

With additional time provided in an extended schedule, the Commission will have the opportunity to explore issues that are pivotal to the success of this IRP cycle. CalCCA recommends that the workshops address, at a minimum, the following topics:

- The ability of Staff's 46 MMT and SCE's 38 MMT scenarios to meet climate goals;
- Development of more reasonable import assumptions;
- The need for Staff's proposed 2,000 MW of generic effective capacity;
- Development of appropriate criteria pollutant metrics;
- Differing viewpoints on battery storage curves; and,
- Staff's aggregation process, including issues related to problems encountered in the previous IRP cycle.

III. CONCLUSION

For all of the foregoing reasons, CalCCA respectfully requests consideration of the recommendations identified in CalCCA's Opening and Reply Comments and looks forward to an ongoing dialogue with the Commission and stakeholders.

January 6, 2020

Respectfully submitted,

A handwritten signature in blue ink that reads "Evelyn Kahl". The signature is written in a cursive, flowing style.

Evelyn Kahl
Counsel to the California Community Choice
Association

APPENDIX A

Illustrative Timeline for CCA IRP Development and Required External Inputs

The table below provides an illustrative timeline based on the timeline for the development of the joint CCA IRP effort assuming the release of load inputs on January 22, 2019 and a Reference System Portfolio adoption date of March 26, 2020, as indicated in ALJ Fitch's November 19, 2019 email to the IRP Service List. Assuming this timeline, LSEs could feasibly complete and submit their IRP submissions by July 31, 2020 for an August 1, 2020 submission. Such an extension would allow the Commission 30 weeks to compile and evaluate IRPs and adopt and submit a Preferred System Portfolio, relative to the 38 weeks required in the 2017-2018 IRP cycle.

Activity	Weeks Req'd	Completion Date	Dependencies
Modeling Inputs: Compile and develop inputs, assumptions, CCA load and portfolio data, including CCA program load modifiers (e.g., more aggressive EV and BTM adoption from CCA programs)	4	2/14/2020	IEPR Load Forecasts
Portfolio Development: Develop conforming (CPUC and local requirements) and preferred portfolios (e.g., aggressive decarbonization portfolio)	3	3/6/2020	IRP Templates (e.g., Clean System Power)
Initial Portfolio Testing: Perform Production Cost Modeling on portfolios and test against RSP	3	3/27/2020	Adopted Reference System Portfolio
Initial Stakeholder Outreach: Conduct stakeholder meetings on initial portfolios	3	4/17/2020	All Above
Advanced Portfolio Testing: Perform sensitivity analysis and stochastic testing on preferred portfolio(s) for reliability, economic performance	3	5/8/2020	All Above
Disaggregate: Disaggregate and allocate portfolios across participating CCAs	2	5/22/2020	All Above
Portfolio Selection: Select preferred portfolio through board and stakeholder engagement	3	6/12/2020	All Above
IRP Drafting: Draft IRP submissions, narratives, fill templates	3	7/3/2020	All Above
IRP Board Approval: Notice IRP results and hearings for board approval by each CCA; IRP submission to CPUC	4	7/31/2020	All Above